

LARGE FLORIDA ORB WEAVERS OF THE GENUS NEOSCONA

(ARANEAE:ARANEIDAE)¹

G. B. Edwards²

INTRODUCTION: Neoscona hentzii (Keyserling) (Hentz's orb weaver) and N. domiciliorum (Hentz) are common and conspicuous members of the moist woodland communities in much of Florida. These spiders are beneficial, consuming a variety of insects. Although typically nocturnal throughout most of their life spans, adult females can be found sitting head down in the hubs of their webs during daylight hours of the fall season. These spiders have a wide geographic range: N. hentzii is found from Lake Okeechobee in southern Florida north to New England, west to Minnesota, and southwest to Arizona and central Mexico, whereas N. domiciliorum occurs southeast of a line drawn from Massachusetts to Indiana southwest to Texas. In the more northern states, males may mature as early as late June and females in July (Berman and Levi, 1971), but in Florida, adults usually are not apparent until late August. Bites from these spiders are not known to cause serious effects to humans.

SYSTEMATICS: These two species have been confused with each other, mostly due to the interpretations by various authors of the descriptions by Walckenaer (1841) of two forms of Epeira benjamina from an unpublished manuscript of drawings of Georgia spiders made by John Abbot in 1792. Berman and Levi (1971), who reviewed the history of the controversy, decided to use the name N. hentzii in place of N. benjamina, since N. hentzii was the oldest name with adequate description and certain interpretation. They also designated a neotype for N. domiciliorum (Hentz).

DIAGNOSIS: N. hentzii and N. domiciliorum are similar but can be distinguished by several characters. Generally, N. hentzii is the larger and more common of the two species. It has more drab coloration, with females (fig. 1) reddish brown to brown, and males (fig. 2) lighter brown with the sides of the carapace nearly black. Northern females are occasionally white. On the other hand, female N. domiciliorum (fig. 3) have a bright white or grayish yellow abdominal dorsum, with 2 wide, black stripes. In both species, a double row of black slashes occurs on the posterior half of the abdomen; sometimes these are obscured. Legs are banded with reddish brown and pale yellow, but those of N. hentzii have brown femora, whereas N. domiciliorum have red femora. In N. hentzii, the second tibia of the male has 2 rows of clasping macrosetae (N. domiciliorum has 3 rows) and the epigynal scape (part of the female genitalia) has 2 pairs of bulges (versus 1 pair in N. domiciliorum). Female N. hentzii range from 8.5-19.7 mm in length; males from 4.5-15 mm in length. Usually, Florida specimens are in the upper part of the size range, making them one of the largest orb-weaving spiders in the state. Female N. domiciliorum range from 7.2-16.2 mm in length; males from 8.0-9.0 mm in length. For both species, Florida specimens usually are larger than more northern specimens (Berman and Levi, 1971).

HABITS AND HABITAT: Both species are more common in moist woodland habitats than in drier woods, and seem to prefer those habitats dominated by hardwoods. Juvenile stages usually begin making vertical orbwebs about dusk and take the orbs down shortly after dawn (Kaston, 1976). During the day, each spider stays in a retreat made of leaves curled together and tied with silk, located at the attachment of an upper frame thread; frame threads are sometimes left in place. Adult females often

¹Contribution No. 596, Bureau of Entomology.

²Arachnologist, Bureau of Entomology, P. O. Box 1269, Gainesville, FL 32602.

leave their webs up and hunt during the day. This may be due to their need for additional food for developing eggs along with a decrease of nocturnal prey in the cooler fall nights. The orb part of the web of N. hentzii may be nearly 2 feet (60 cm) in diameter (Kaston, 1976); that of N. domiciliorum usually is somewhat smaller. The eggsac of N. hentzii consists of fluffy yellow threads in a rolled leaf over a lenticular or spherical egg mass 5-12 mm in diameter, which may contain up to 1,000 eggs. Juveniles are frequently preyed upon by mud daubers, especially Trypargilum politum (Say) (Hymenoptera: Sphecidae) (Kaston, 1948).

SURVEY AND DETECTION: Both species of orb weavers are often found on or near buildings. The human occupants may not even be aware of the spiders' presence unless they walk outside after dark and see the web in a lighted area or walk into the web in the dark. Often, the edge of an eave is used as an upper support, with the bottom frame lines attached to a shrub or the ground. A simple silken retreat under the eave may serve as a diurnal shelter. Specimens may be seen in open woodlands by observing webs strung between trees in late fall, or earlier in the year by finding webs at night with a headlight.

LITERATURE CITED:

- Berman, J. D., and H. W. Levi. 1971. The orb weaver genus Neoscona in North America (Araneae:Araneidae). Bull. Mus. Comp. Zool. 141(8):465-500.
Kaston, B. J. 1948. Spiders of Connecticut. Bull. Connecticut St. Geol. Natur. Hist. Surv. 70:1-874.
_____. 1976. Supplement to the Spiders of Connecticut. J. Arachnol. 4(1):1-72.
Walckenaer, C. A. 1841. Histoire Naturelle des Insectes Apteres. Tome II. Paris. 549 p.

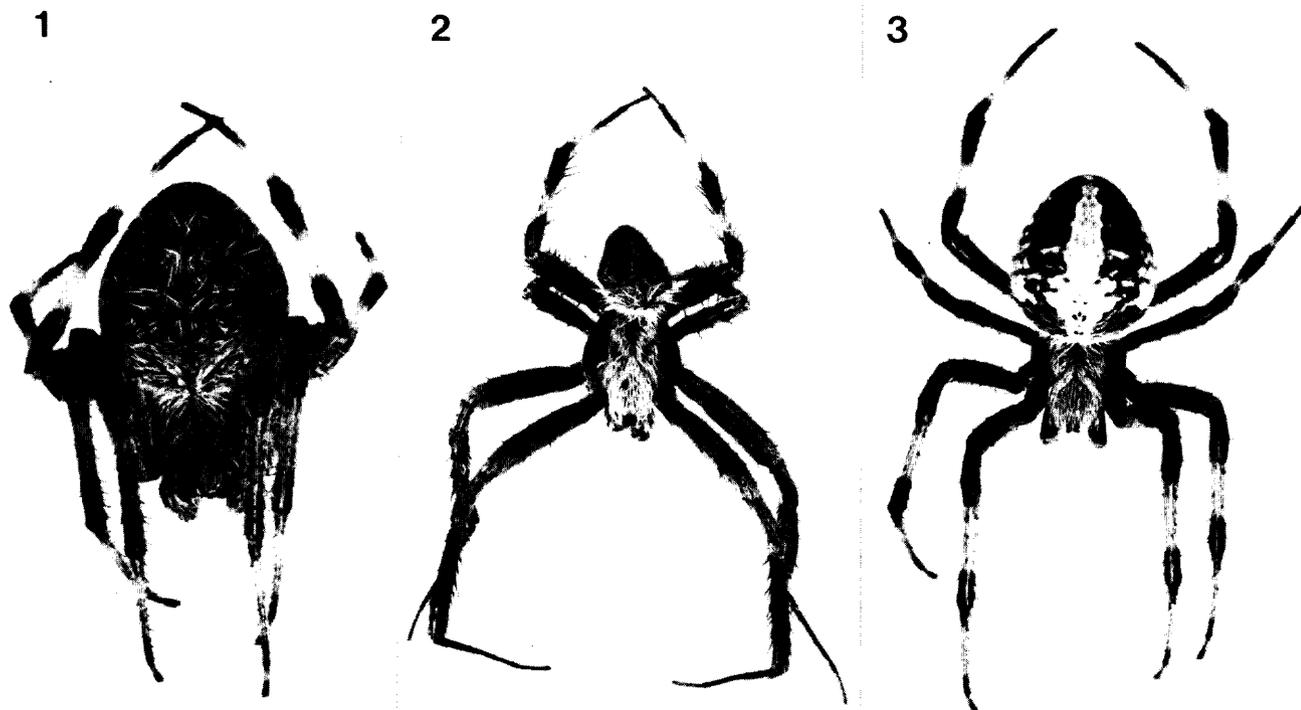


Fig. 1. Female of Neoscona hentzii, 2.5X. Fig. 2. Male of Neoscona hentzii, 2.5X.
Fig. 3. Female of Neoscona domiciliorum, 2.5X.